

AIR QUALITY PERMIT

Issued To: Plains Marketing, L.P.
Baker Truck Crude Oil Station
PO Box 708
Belfield, ND 58622

Permit: #3416-00
Application Complete: 5/1/06
Preliminary Determination Issued: 6/9/06
Department's Decision Issued: 6/27/06
Permit Final: 7/13/06
AFS #: 025-0016

An air quality permit, with conditions, is hereby granted to Plains Marketing L.P. (Plains) for the Baker Truck Crude Oil Station (Baker Truck Station) near Baker, Montana, pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Permitted Equipment

Permit #3416-00 is issued to Plains for the operation of a crude oil truck unloading station known as the Baker Truck Station, located near Baker, Montana. A complete list of the permitted equipment is contained in Section I.A of the Permit Analysis.

B. Plant Location

The facility is located 10 km west of Baker, Montana on Highway 12 in Section 3, Township 7 North, Range 58 East, in Fallon County, Montana. The facility's office is located in Belfield, North Dakota.

Section II: Conditions and Limitations

A. Emission Limitations

1. The two 400-barrel crude oil tanks shall not exceed a combined crude oil throughput of 500,000 barrels per rolling 12-month time period (ARM 17.8.749).
2. The two tanks shall employ submerged fill (ARM 17.8.752).
3. Plains shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
4. Plains shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
5. Plains shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.4 (ARM 17.8.749).

B. Inspection and Repair Requirements

1. Each calendar month, Plains shall inspect all fugitive piping components (valves, flanges, pump seals, open-ended lines) for leaks. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.105 and ARM 17.8.749).
2. Plains shall (ARM 17.8.105 and ARM 17.8.749):
 - a. Make a first attempt at repair for any leak not later than five calendar days after the leak is detected; and
 - b. Repair any leak as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in Section II.B.3.
3. Delay of repair of equipment, for which a leak has been detected, will be allowed if the repair is technically infeasible without a source shutdown. Such equipment shall be repaired before the end of the first source shutdown after detection of the leak (ARM 17.8.749).

C. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).

D. Operational Reporting Requirements

1. Plains shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Plains shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by Plains as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. Plains shall document, by month, the crude oil throughput for the facility. By the 25th day of each month, Plains shall total the crude oil throughput for the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

E. Recordkeeping Requirements

1. A record of each monthly leak inspection required by Section II.B.1 of this permit shall be kept on file with Plains. Inspection records shall include, at a minimum, the following information (ARM 17.8.749):
 - Date of inspection;
 - Findings (may indicate no leaks discovered or location, nature, and severity of each leak);
 - Leak determination method;
 - Corrective action (date each leak repaired and reasons for any repair interval in excess of 15 calendar days); and
 - Inspector's name and signature.
2. All records compiled in accordance with this permit must be maintained by Plains as a permanent business record for at least five years following the date of the measurement, must be available for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – Plains shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Plains fails to appeal as indicated below.

- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Plains of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Plains may be grounds for revocation of this permit, as required by that section and rules adopted hereunder by the Board.
- H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

PERMIT ANALYSIS
Plains Marketing L.P.
Baker Truck Crude Oil Station
Permit Number 3416-00

I. Introduction/Process Description

Plains Marketing L.P. (Plains) owns and operates the Baker Truck Crude Oil Station (Baker Truck Station) near Baker, Montana. The facility is located 10 km west of Baker, Montana on Highway 12 in Section 3, Township 7 North, Range 58 East, in Fallon County, Montana.

A. Permitted Equipment

The facility consists of the following equipment:

1. Tank 50200 – a submerged fill 400 barrel (bbl) crude oil tank
2. Tank 6671 – a submerged fill 400 bbl crude oil tank
3. Tank and piping components - 4 pumps; 8 open-ended lines; 45 valves; 10 connectors; 180 flanges; 15 other

B. Source Description

The Baker Truck Station is a crude oil terminal which Plains is proposing to re-activate after leaving it idle for several years. There are two existing 400-bbl crude oil submerged-fill tanks that receive oil brought into the station by trucks from various oil fields within approximately 20-mile radius. The trucks pump the oil into the tanks, which act as equalization vessels, at atmospheric temperature. The crude will then be pumped from the tanks by a new 300-bbl/hr pump, into a pipeline to a 5,000-bbl & 10,000-bbl tank at the adjacent Baker Station owned by Plains Pipeline, LP.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Plains shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Plains must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over six consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Plains shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.324 Hydrocarbon Emissions—Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR 60.
 - 40 CFR 60, Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978, does not apply because the facility was modified after May 19, 1978.
 - 40 CFR 60 Subpart Ka – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and prior to July 23, 1984, does not apply because the tanks were modified after July 23, 1984.
 - 40 CFR 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, is not applicable to any of the tanks at the facility because this subpart does not apply to vessels with a design capacity less than or equal to 1,589.874 cubic meters (m³) used for petroleum or condensate stored, processed, or treated prior to custody transfer, or other vessels greater than 75 m³. Each of the petroleum liquid storage vessels at the facility has a maximum capacity of 63.6 m³.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. A major HAP source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as applicable:
 - 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Based on the information submitted by Plains, the Baker Truck Station is not subject to the provisions of 40 CFR Part 63, Subpart HH because the facility is not a major source of HAPs.
- D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:
 1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.402 Requirements. Plains must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stacks for Baker Truck Station is below the allowable 65-meter GEP stack height.
- E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:
 1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Plains submitted the appropriate permit application fee for the current permit action.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

- F. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Plains has a PTE greater than 25 tons per year of Volatile Organic Compound (VOC); therefore, an air quality permit is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
 5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Plains submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Plains submitted an affidavit of publication of public notice for the October 28, 2005 issue of the *Fallon County Times*, a newspaper of general circulation in the City of Baker, County of Fallon, as proof of compliance with the public notice requirements.
 6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
 7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
 8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Plains of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications-- Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow. This facility is not a major stationary source since this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).
- H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.
 2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3416-00 for Plains, the following conclusions were made:
 - a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is not subject to any current NSPS.
 - e. This facility is not subject to any current NESHAP standards.
 - f. This source is not a Title IV affected source, nor a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Plains will be a minor source of emissions as defined under Title V.

III. BACT Determination

A BACT determination is required for each new or altered source. Plains shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

Two 400-Barrel Crude Oil Storage Tanks

The Baker Truck Station has two existing 400-bbl fixed roof crude oil storage tanks, which are being reactivated after being idle for several years. The tanks receive crude oil transported in by trucks. The crude oil is unloaded into the tanks through submerged fill, and stored prior to being pumped into the pipeline by a new 300 bbl/hr pump.

Plains submitted a BACT analysis for permit application #3416-00 in a letter dated January 23, 2006, addressing available methods of controlling VOC emissions from the two crude oil storage tanks. Supplemental information was submitted on May 1, 2006. The Department reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by the Department, in order to make the following BACT determination.

A. Identification of VOC Control Options:

The following are potential VOC control options:

- Submerged fill (baseline, no additional control)
- Connect tank vents to gas pipeline
- Floating Roof
- Carbon absorption
- Flare (smokeless combustion device)
- Vapor Recovery Unit (VRU)

B. Eliminate Technically Infeasible VOC Options:

Connect tank vents to gas pipeline: There is no available gas pipeline to accept vapors from the two tanks. This option can be eliminated from further review.

Floating Roofs: Supplemental information supplied by Plains on May 1, 2006, discusses the technical difficulties involved in retrofitting existing 400-bbl storage tanks with floating roofs. Based on the information supplied by Plains, the Department agrees that it would be technically infeasible to retrofit the two tanks due to the following reasons:

- Friction of floating roof could “hang up” against the roof – negating the floating roof function
- Significant volume of the tank could be “lost” due to space required for safe fill area at the top and “legs” on the floating roof to provide a minimum of 6 feet above the tank floor. Could reduce working volume by up to 40% (8 feet lost for 20 ft height).
- Crude oil unloading includes air blown into the hose and potentially into the tank. Air bubbles can force oil around the seal or can tip the floating roof sideways.

C. List all Technically Feasible Options, by Control Efficiency:

The following are the technically feasible options for controlling vapors from the two tanks, ranked by control efficiency. The emissions and % reduction are based on a comparison to submerged fill, which is considered the baseline. Annual emissions were based on a restricted throughput of 500,000 barrels of crude oil per year.

Control Technology	Tank –VOC tons per year	Facility – VOC tons per year	% Reduction over Submerged Fill
Carbon Adsorption*	0.0	0.1	99.9%
Flare (smokeless combustion device)*	0.1	0.2	98%
Vapor Recovery Unit*	0.5	1.0	90%
Submerged Fill**	4.9	9.8	NA (baseline)

* The efficiency for the add-on control options were based on manufacturer’s efficiencies, and the emissions for these options were calculated by comparing to the baseline (submerged fill).

Carbon Adsorption: Vapors from the 400 bbl tanks would vent through a train of carbon tanks in series. VOC would be absorbed by the carbon, with typically over 95% removal rate (the applicant assumed 100% efficiency). The activated carbon is designed to be replaced between 3 – 12 times per year. There would be an estimated 3200 lbs of granular activated carbon disposed of for each replacement.

Flare: Vapors from the 400 barrel tanks could be vented to a flare. Due to the design of the crude oil tanks, air is pulled into the tank every time the tank is drawn down. This causes a potentially explosive air/gas mixture within the tanks. A flare stack on such tanks needs to have a well-engineered flashback control system to prevent flashback of combustion into the tanks.

Vapor Recovery Unit: Vapors from the tanks can be routed to a dedicated condensing device which cools the vapor stream and causes the water vapor and most of the aromatic hydrocarbons to condense. The condensed material can be returned to the crude oil storage tank. The non-condensable vapor, including methane, may be used for fuel, incinerated, adsorbed by carbon, or transported via pressurized truck to a gas plant field compressor station. The condensed vapor can be separated into water and hydrocarbon liquid and disposed of or processed at another facility to recover hydrocarbons.

Submerged Fill: Two types are the submerged fill pipe method and the bottom loading method. In the submerged fill pipe method, the fill pipe extends almost to the bottom of the cargo tank. In the bottom loading method, a permanent fill pipe is attached to the tank bottom. During most of submerged loading by both methods, the fill pipe opening is below the liquid surface level. Liquid turbulence is controlled significantly during submerged loading, resulting in much lower vapor generation than encountered during splash loading. This is considered baseline.

D. Eliminate all Economically Infeasible Control Options:

The EPA's "OAQPS Control Cost Manual" provides the EPA's recommended methodology for estimating the costs for add-on control technology. To calculate the cost effectiveness of a control technology in dollars per ton (\$/ton), the following factors are used:

Cost effectiveness (\$/ton) = [(total capital investment x CRF) + Direct Annual Cost]/(tons VOC controlled)

Capital recovery cost = (total capital investment x capital recovery factor)

Total capital investment = direct and indirect costs for purchasing and installing control equipment.

Capital recovery factor (CRF) = multiplier to determine the uniform end-of-year payment necessary to repay an investment in n years with an interest rate of i .

Control system life, $n = 10$ to 20 years, typically assume 10 years

Interest rate, $i = 7\%$ is recommended interest rate

For this BACT analysis, $CRF = 10 \text{ years} @ 7\% = 0.142$

Direct Annual cost (utilities, labor, taxes)

The following summarizes the cost effectiveness for each of the technically feasible control options, compared against a baseline of submerged fill:

Carbon Adsorption: [(\$83,000 x 0.142)+19,200]/(9.84 – 0.01 tpy) = \$3,152/ton controlled

Flare: [(\$140,000 x 0.142)+\$12,500]/(9.84 - 0.20 tpy) = \$3,357/ton controlled

Vapor Recovery Unit: [(\$163,800 x 0.142)+\$18,000]/(9.84-0.98 tpy) = \$4,658/ton controlled

Submerged Fill: already installed in tanks – considered baseline.

E. Select VOC BACT:

Information from the applicant indicates that it is technically infeasible to retroactively install a floating roof on an existing 400-bbl tank. The other options, while technically feasible, were not economically feasible, with the cost effectiveness of each above \$3,000 per ton. Therefore, the Department agrees with the applicant's proposal that no control other than submerged fill is BACT for re-activating the two existing 400-bbl crude oil tanks.

IV. Emission Inventory

Source	Description	Potential to Emit (tpy)		
		VOC	HAPs	PM ₁₀
Tank 50200	400 barrel (16,800 gallon) tank with submerged fill	4.92	0.505	0
Tank 6671	400 barrel (16,800 gallon) tank with submerged fill	4.92	0.505	0
Fugitive VOC	4 pumps; 8 open-ended lines; 45 valves; 10 connectors; 180 flanges; 15 other	2.99	0.31	0
Fugitive PM	Trucks & Pickups on unpaved road	0	0	6.02
TOTAL		12.83	1.32	6.02

*The above table represents the potential to emit, after controls, considering:

- annual 500,000 bbl/yr facility-wide throughput restriction of crude oil
- Reid Vapor Pressure (RVP) up to 8.0.

The following provides information on calculation emissions summarized in the above emission inventory:

Two (2) 400-bbl submerged fill crude oil storage tanks – VOC emissions per tank, based on EPA TANKS 4.0 (Speciate 3.2 Profile 1210).

Annual crude oil throughput 500,000 bbl/yr for facility (=21 MM gal/yr)
 Crude Oil Vapor Pressure RVP 8.0: 4.04 – 4.97 psia (average 4.49 psia)
 Temperature 43.2 – 54.4 deg F (average 48.8 deg F)

Losses (working & breathing)
 Submerged fill: 4.92 tpy per tank
 HAP Emissions (as % VOC): total @ 10.27%
 Submerged fill: 0.505 tpy per tank

Fugitive VOC Emissions – emissions based on EPA’s “Protocol for Equipment Leak Emission Estimates,” November 1995 for Light Oil >= 20 API Gravity

Pumps: 4 pumps
 Emission Factor: 0.688 lb/day/pump
 Calculation: 4 pumps * 0.688 lb/day/pump *365 days/yr * 0.0005 ton/lb= 0.5 tons per year

Valves: 45 valves
 Emission Factor: 0.132 lb/day/valve
 Calculation: 45 valves * 0.132 lb/day/valve *365 days/yr * 0.0005 ton/lb= 1.08 tpy

Connector: 10 connectors
 Emission Factor: 0.011 lb/day/connector
 Calculation: 10 valves * 0.011 lb/day/connector *365 days/yr * 0.0005 ton/lb= 0.02 tpy

Flange: 180 flanges
 Emission Factor: 0.0058 lb/day/flanges
 Calculation: 180 flanges * 0.0058 lb/day/flange *365 days/yr * 0.0005 ton/lb= 0.19 tpy

Open-Ended Line: 8 open-ended lines
 Emission Factor: 0.074 lb/day/open-ended line
 Calculation: 8 open-ended line *0.074 lb/day/open-ended line *365 days/yr *0.0005 ton/lb= 0.11 tpy

Other: 15 “other”
 Emission Factor: 0.397 lb/day/”other”
 Calculation: 15 “other” * 0.397 lb/day/”other” *365 days/yr * 0.0005 ton/lb= 1.09 tpy

Fugitive PM Emissions from Unpaved Roads – emissions based on EPA’s AP-42 Section 13.2.2 (12/03)

Develop emission factor for PM & PM10 emissions per vehicle mile traveled:

Emission Factor	Trucks	Pickups
PM ₁₀	3.97 lb/VMT	1.06 lb/VMT
PM	4.11 lb/VMT	1.10 lb/VMT

Determine vehicle miles traveled per year, and apply the emission factor:

PM₁₀ = 2,986 miles/truck * 3.97 lb/VMT *0.0005 ton/lb = 5.92 tpy PM10
 PM = 2,986 miles/truck * 4.11 lb/VMT *0.0005 ton/lb = 6.14 tpy PM10
 PM₁₀ = 182.5 miles/pickup * 1.06 lb/VMT *0.0005 ton/lb = 0.10 tpy PM10
 PM = 182.5 miles/pickup * 1.10 lb/VMT *0.0005 ton/lb = 0.01 tpy PM10

V. Existing Air Quality

The Plains’ facility is located in eastern Montana in a sparsely populated area with generally very good ventilation throughout the year. The legal description of the facility is Section 3, Township 7 North, Range 58 East, in Fallon County, Montana. Fallon County is unclassifiable/ attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

VI. Ambient Air Impact Analysis

The Department determined that any air impacts from the Baker Truck Station will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Analysis Prepared By: Christine Weaver
 Date: June 1, 2006

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Plains Marketing L.P.
PO Box 708
Belfield, ND 58622

Air Quality Permit Number: 3416-00

Preliminary Determination Issued: June 9, 2006

Department Decision Issued: June 27, 2006

Permit Final: July 13, 2006

1. *Legal Description of Site:* The facility is located approximately 10 km west of Baker and 4 km southeast of Plevna, in Section 3, Township 7 North, Range 58 East, in Fallon County, Montana.
2. *Description of Project:* The Baker Truck Station will consist of reactivating two existing 400-barrel (bbl) crude oil tanks and associated equipment. The purpose is to unload crude oil from transport trucks into the tanks, and pump the oil from the tanks through a pipeline into larger tanks on adjacent property owned by Plains Pipeline LP for introduction into the pipeline. The crude is pumped from the trucks into the tanks via submerged fill. The crude is then pumped from the tanks by a new 300 bbl/hr pump. The project will consist of reactivating the two existing 400-barrel (bbl) tanks, and installing a larger pump that will allow 300 bbl/hr throughputs. Plains will be restricted to 500,000 bbl/yr of crude oil.
3. *Objectives of Project:* Reactivation of a crude oil truck unloading station.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because Plains demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in Permit #3416-00.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics				X		Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:

The following comments have been prepared by the Department.

A. Terrestrial and Aquatic life and Habitats

Minor impacts on terrestrial or aquatic life and habitats would be expected from the proposed project because the facility would be a source of air pollutants, and because minor amounts of land disturbance would be required to reactivate the existing facility. While the facility would emit air pollutants and corresponding deposition of pollutants would occur, the Department determined that any impacts from deposition would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA), and conditions that would be placed in Permit #3416-00. In addition, minor land disturbance would occur to modify the facility, such as pouring a concrete slab to hold the pump. Any impacts from facility construction would be minor due to the relatively small size of the project. Overall, any impacts to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity and Distribution

Minor impacts would be expected on water quality, quantity, and distribution from the proposed project because of the relatively small size of the project. While the facility would emit air pollutants and corresponding deposition of pollutants would occur, the Department determined that any impacts from deposition would be minor due to the relatively small amount of pollutants emitted, (see Section 7.F of this EA), and conditions that would be placed in Permit #3416-00. In addition, facility construction will be extremely minor, such as pouring a concrete slab to hold the new pump, and would not impact water quality, quantity, or distribution because there is no surface water on the site. Review of topo maps show the nearest surface water is located approximately 0.1 mile to the east/northeast.

By reactivating the truck unloading station, there is the elevated risk of leaks or spills that could result in crude oil reaching nearby surface water or groundwater. There will be a maximum of 33,600 gallons of crude oil stored on-site. As previously stated, the nearest surface water is at least 0.1 miles from the Baker Truck Station. In addition, Sandstone Creek is located approximately 1 mile to the northeast of the facility. The facility should have a Spill Prevention, Countermeasure & Control (SPCC) Plan that would address mitigation for any releases. Overall, any impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project. The impacts would be minor due to the relatively small size of the project and the fact that most of the equipment already exists on-site. In addition, while deposition of pollutants would occur, the Department determined that the chance of pollutant deposition impacting the geology and soil in the areas surrounding the site would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA). Permit #3416-00 would contain conditions that would also minimize impacts to geology and soil by limiting the amount of equipment installed at the facility and limiting the emissions from the facility. Overall, any impacts to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Any impacts to the vegetation cover, quantity, and quality from facility construction would be minor due to the small size of the project, since there will be little expansion to an existing two-acre facility. In addition, while deposition of pollutants would occur, the Department determined that the chance of deposition of pollutants impacting the vegetation in the areas surrounding the site would be minor due to the relatively small amount of pollutants emitted (see Section 7.F of this EA). Permit #3416-00 contains conditions that would also minimize the impacts to vegetation by limiting the amount of equipment installed at the facility and limiting the emissions from the facility. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

No impact would result on the aesthetics of the area because the facility has existing equipment that they will be reactivating. The increase in truck traffic could be considered an aesthetic impact, but the facility is located off a highway next to an existing pipeline facility. Overall, there should not be an impact on the aesthetics of the area due to the relatively small size of the facility and the fact that most of the equipment is already existing on-site.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit relatively small amounts of VOC, particulate matter less than 10 microns (PM₁₀), and a very small amount of Hazardous Air Pollutants (HAPs). Air emissions from the facility would be minimized by conditions that would be placed in Permit #3416-00. Conditions would include, but would not be limited to, the requirement to operate Best Available Control Technology (BACT).

Permit #3416-00 would also include conditions requiring Plains to use reasonable precautions to control fugitive dust emissions. The Department determined that controlled emissions from the source will not cause or contribute to a violation of any ambient air quality standard. Therefore, any impacts to air quality from the proposed facility would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). In this case, the area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. The NRIS search identified two species of special concern within one mile. The swamp milkweed is a species of concern found within the general area of the facility. In addition, the facility is located within one mile of the inferred extent of the greater Sage-grouse. However, due to the minor amounts of construction that would be required since there will be little expansion to an existing 2-acre facility, the relatively low levels of pollutants that would be emitted, and conditions that would be placed in Permit #3416-00, the Department determined that the chance of the project impacting any species of special concern would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

The proposed project would have impacts on the demands on the environmental resources of air and water because the facility would be a source of air pollutants. However, any impacts on the environmental resources would be minor because the facility's potential to emit would be relatively small by industrial standards

The proposed project could potentially have an impact on water supply due to the risk of spills and leaks of crude oil. The facility should have a SPCC Plan to address mitigation efforts for any potential releases of crude oil. The proposed project would have minor impacts on the demand on the environmental resource of energy due to increase in electrical demand for powering pumps. Overall, any impacts on the demands on the environmental resources of air, water, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there have not been any previously recorded historic or archaeological sites within the proposed area. In addition, SHPO records indicated that no previous cultural resource inventories have been conducted in the area. SHPO stated that there was a low likelihood that cultural properties would be impacted and that a recommendation for a cultural resource inventory was unwarranted. However, SHPO requested to be contacted to have the site investigated if cultural materials are inadvertently discovered. Based on this information, the fact that the facility is small (two acres), and most of the equipment is existing other than the new pump, the Department determined that there is low likelihood that the project would impact any cultural or historic sites.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the relatively small size of the project. As described in Section 7E, the increase in truck traffic and potential releases of crude oil from unloading transportation trucks are both potential secondary impacts. Potential emissions from the facility would be relatively small by industrial standards. The Department expects this facility to operate in compliance with all applicable rules and regulations outlined in Permit #3416-00.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals				X		Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

B. Cultural Uniqueness and Diversity

The proposed project would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) or cultural uniqueness and diversity in the area, because the proposed project would take place at an existing site, in an unpopulated area, immediately adjacent to the highway next to the Plains Marketing’s Baker Terminal tank farm. The proposed project would not change the predominant use of the surrounding area and the facility would be relatively small by industrial standards.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor, if any, impacts to the local and state tax base and tax revenue because the proposed facility will be unmanned. In addition, only minor amounts of construction would be needed to complete the project.

D. Agricultural or Industrial Production

The site is existing. The land use for the surrounding area is pasture or agricultural land, as well as tank farms. The crude oil station may promote future industrial production in the area. Overall, any impacts to agricultural or industrial production would be minor.

E. Human Health

The proposed project would result in only minor, if any, impacts to human health because of the relatively small quantity of potential emissions. As explained in Section 7.F of this EA, deposition of pollutants would occur. However, the Department determined that the proposed project, permitted by Permit #3416-00, would comply with all applicable air quality rules, regulations, and standards, which are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would not have any impacts on access to recreational and wilderness activities because of the relatively small size of the facility and the fact that the project is at an existing facility. The proposed project would not have impacts on the quality of recreational and wilderness activities in the area.

G. Quantity and Distribution of Employment

The proposed project would not affect the quantity and distribution of employment because the station will be unmanned. However, temporary construction-related positions could result from this project. Any impacts to the quantity and distribution of employment would be minor due to the relatively small size of the facility.

H. Distribution of Population

The proposed project would not affect distribution of population in the area because the facility would be located in a relatively remote location and will be unmanned. The proposed project would not cause a change in population in the area because the facility would be unmanned, would be relatively small by industrial standards, and the facility would only emit relatively small amounts of emissions.

I. Demands for Government Services

There would be minor impacts on demands of government services because additional time would be required by government agencies to issue Permit #3416-00 and to monitor compliance with applicable rules and standards. In addition, the roads in the area may realize a minor increase in vehicle traffic. However, any impacts on government services to regulate the minor increase in traffic would be minor due to the overall small size of the operation. Overall, any impacts on the demands for government services would be minor.

J. Industrial and Commercial Activity

Only minor impacts would be expected on the local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area. However, any new oil & gas well facilities with a PTE greater than 25 tons per year of any regulated air pollutant would be required to obtain a Montana Air Quality Permit and the Department would perform an EA for each permit application, evaluating impacts to industrial and commercial activity for each proposed project.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals affected by issuing Permit #3416-00. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed project would result in minor impacts to the economic and social aspects of the human environment in the immediate area due to the relatively small size of the facility. Due to the relatively small size of the project, the industrial production, employment, and tax revenue (etc.) would not be significantly impacted by the proposed project. The Department would not expect other industries to be impacted by the proposed project and the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3416-00. In addition, further cumulative impacts may result from other companies actively drilling in the surrounding area. The companies would be required to apply for air quality permits for additional facilities with potential emissions greater than 25 tpy. Impacts from additional facilities that require air quality permits would be evaluated upon the Department's receipt of any future permit applications.

Recommendation: No EIS is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a crude oil truck unloading station. Permit #3416-00 would include conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Christine Weaver

Date: June 1, 2006